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SEPTEMBER 1983 NEWSLETTER

THE SLEEPING GIANT YAWNS AND HARDWARE PRICES PLUMMET!

Remember when the world was turned upside down by the announcement that TI has lost some mega bucks during the first six months of this year? I wrote Mr. J. Fred Bucy-President of Texas Instruments Inc.-and expressed my concerns and made some suggestions that I felt would help TI over the summit. I got a very nice reply from Mr. Bucy and some results were only a few days off! When August 15, 1983 arrived TI announced massive price cuts on all of their hardware that ranged from 40% to 60%! I had suggested to TI that they should reduce their prices no less than 25% on the retail end immediately, but this was even better news than I had hoped for.

The PES Cabinet give away has ended, but an even better deal now awaits you. The PAP4000 consists of: Peripherial Expansion Box, Disk Controller Card, an Internal Disk Drive, and a Memory Expansion Card. The retail is $550 and your price is $418.50 delivered! Now for the kicker. You also get your choice of a Logo #2, TI Writer, or MS Multi Plan "free"!!! If you don't count the free item in the package, the literal retail drop is a huge $650!

We will publish a new price list later this Fall, but for the mean time you should make the following changes on your master list: Disk Controller Card retail of $150-your cost $112.50, Internal Disk Drive retail of $250-your cost is $187.50, Expansion RAM Card retail of $150-your cost is $112.50, RS/232 Interface Card retail of $100-your cost is $75.50, P-Code Card retail of $100-your cost is $75.50, Phone Modem retail of $100-your cost is $75.50, TI Impact Printer retail of $485-your cost is $350.

I made several other suggestions also, but who knows if the powers that be will listen or not. One was that TI release the new 99/8 home computer within the next three months and at a retail price close to $300. It should have built in: X/Basic, P-Code, RS/232, and modem. It will also have no less than 80K of internal memory with expansion possible. The hardware and software will be upwards compatable with the TI 99/4A.

My final major suggestion was that Texas Instruments open up some breathing room for Third Party modular development. I agree that controling the modules does also control the quality, but it also restricts the limits of how far TI can go in their own software production. I have seen many programs that would sell well if TI put them into the modular design. Two examples are reviewed in this newsletter: Draw A Bit and Arthropods.

Perhaps the single greatest point to keep in mind, is that TI does listen to us. They may not always act as rapidly as we think that they ought to, but act they will. It makes me feel more secure knowing that my expensive equipment isn't going to be a collectors item later on this year!

MULTI PLAN: WHERE'S THE RAID?

It has been called to my attention that Multi Plan has a problem when you try to copy a data disk. You may not make a backup diskette unless you know the

magic word! TI fails to mention "anywhere" in the literature that you must give
the copy disk the disk name of TIMP. If you fail to do this you can not make a
backup data disk copy! Our thanks to Bob White for this tidbit. I know that Bob
pulled out alot of hairs trying to figure this problem out, but was finally a
victor.

CLOSED CIRCUIT FOR MI MEMBERS!

Here is the meeting schedule for the Fall of this year. Be sure to file it
away in your favorite spot, that way you are sure to lose it! September 25th.,
October 23rd., and November 20th..The place is still the Mott Memorial Bldg. on
the campus of the Flint University of Michigan. You will be notified by mail for
the first meeting.

ROMOX: SOME MODULES TO MELT YOUR MIND!

Romox has three software packages available that we thought you might enj .
In fact, we liked them so much that we are going to review all three of them for
you in this newsletter! They retail for $39.95 each and your user price is
$29 each.

ANT EATER: HE LOVES ANTS, CHOCOLATE COVERED OR NOT!

You are an ant and have the task of tunneling your way towards the surface.
Once there it is your duty to carry the food cubes back to your tunnel. However,
life is seldom as simple as it first seems. On the surface lurks an ant eater
who makes it a habit of eating ants. Better make your tunnel in a zig zag
pattern to confuse him! If he anticipates your exit point you are nothing more
than a quick snack! You aren't defenlessless though, as you have explosive eggs.
They have a time delayed fuse, so you can plant one and hope that the ant eater
is in the right place when it goes POW! Oh yes, you had better be safely back
into your tunnel when it explodes, or it will wipe you out also!
The game has advanced difficulty levels if you get off the first screen. The
farther you go the more hectic it becomes. Good graphics, music or not option,
and a choice of the keyboard or joysticks. It plays well! An excellent game
for youngsters of all ages. I rated it ** Good.

PRINCESS AND THE FROG: THEY DON'T CALL HER HOT LIPS FOR NOTHING

If you have played "FROGGER" at the local arcade and liked it, then you are
going to love this slightly altered version! You are the frog and must make your
way through a field of jousting knights. Then try to leap onto alligators and
eels floating in the water filled moat, they sometimes take a dive and you lose
a frog in the drink! Just to be sporting, there is a female frog at the edge of
the moat that you can try to mate with! If successful you get bonus points, a
failure just leaves the frog frustrated.

SEPTEMBER 1983 NEWSLETTER

If you hop your frog into one of the six waiting boxes across the moat, you could get a surprise. Sometimes the Princess plants a kiss on the old green frog and he abruptly turns into a prince. This stroke of fortune also earns you valuable bonus points. If you do get all six frogs into the boxes you progress to the next screen. You start out with five frogs and earn an extra one for each one that you do manage to get into a box. It has nice graphics, plays hard and well, and is a solid challenge to arcade fans! This should be a hot seller for Romox and is a good value! I rated it *** Very Good+

HENPECKED: IF YOU CAN'T BEAK THEM, JOIN THEM!

You are an egotistical rooster who flaps his wings and flies around the screen in pursuit of innocent hens. You have to land on top of them to score a point, but beware of that beak! The slightest wrong move and this chick will rip your feathers off! Now you can flap upwards and park on a cloud to look over the situation or just dive right in.

Hens have a natural habit of laying eggs and your time is limited as to how long you have to nail the hen before the egg hatches into another hen. If you are fast, you can nail the moving hen and the stationary egg in a few quick moves. Each screen gets tougher with more eggs, more hens, and a faster hatching time! You get a supply of three roosters, and you will need all of them! The game is a riot to play, has very fast action, nice colorful graphics, and offers an action packed challenge. You may play this game with either the keyboard or joysticks. I loved it and rated it *** Very Good+

USED PRODUCTS: GOOD BUYS FOR THE WISE

1. RS/232 Interface Peripherial-Excellent with manual $150
2. Disk Controller Peripherial-Excellent with manual $75
3. Cobra Wireless Phone-factory condition. 600 foot range, intercom, mute button, dial capability, desk charge unit $75

THE INPUT THAT WOULDN'T INPUT

There are special circumstances when an input may refuse to accept data that is entered as a numeric variable. Trying to input a baud rate in an open statement, for instance. Here is one way to get around this nasty little problem.

```
10 CALL CLEAR  20 X$="RS232.BA="&B$  30 PRINT TAB(3);"WHAT IS THE BAUD RATE?":::::::
40 INPUT B$  50 OPEN#1:X$&B$  60 PRINT TAB(5);"INPUT TEXT STRING!::::::
70 INPUT T$  80 PRINT#1:T$
```

SEPTEMBER 1983 NEWSLETTER

DRAW A BIT: TWO BITS, FOUR BITS, SIX BITS, A PICTURE

This is the best graphic generation program yet written for "any" computer! It is authored by Dominick Melfi of Data Force and is nothing less than an absolute masterpiece. It is written in TMS9900 assembler and requires a Disk Controller, Disk Memory Drive, X/RAM, and X/Basic.

The documentation is twenty pages in length and contains eight very helpful instructional lessons. These lessons instruct you in all of the features of the program and offer examples. This is not an easy program to learn to operate, as it is complex. It will require that you devote some hours to learning the myriad of key stroke functions and how to combine them to achieve the drawing that you want. This program is not just the run of the mill drawing pad, but a very high brow tool that permits you to paint one pixil at a time!

Here are some of the features and operations that the program offers: full control of sixteen foreground, background, and screen colors, the ability to paint in different colors on the screen, full control of vertical, horizontal, and diagonal lines, the capability to do connect the dot drawings with a floating marker, screen erase and memory clear functions, a paint command that allows you to fill in an object in a desired color, a routine for plotting arc's and laying them out on the screen, a circle generation routine that draws a circle in the blink of an eye, the ability to control "every" single pixil location and color on the screen, a redraw function from draw memory, keyboard or joystick drawing capability, an overlay operation for combining colors, and much more. This is a program that has to be seen and used to be understood and appreciated!!!

It offers a very colorful and breath taking demonstration also. Just sit and watch in awe as the computer shows you part of what Draw A Bit can do. You see a planet in space, a city, different print formats of text on the screen, an abstract painting with about forty circles, and some other mind blowing goodies! Yes, you can save your work and interface it into other programs! The speed at which this program draws is spectacular! You can create a picture and erase it and then watch as the computer redraws it on the screen. The curser is almost a blur as it paints happily away!

The way in which a circle is generated is interesting in itself. You control the curser position and the "aid" marker. Position the curser in the screen center and then hit the "aid" command. The "aid" marker now joins the curser in the screen center. Next move the curser away from the "aid" marker to a desired distance; say two inches. Simply hit FY-function Y-and the first arc is displayed. If you want an entire circle just hit FU,FI, and FO. The radius is equal to the distance from the "aid" marker to the screen curser. A second routine allows you to input absolute or relative values, desired radius, number of points to be plotted, and the X-Y screen coordinates. This circle is drawn instantly without any arc's being offered.

Now some might think that the retail price of $59.95 is too high, but I can assure you that it is a bargain! Your member price is $48.50 and it is worth every copper cent!!! It puts the 9918A VDP through its paces in a way that is will captivate your eyes and mind! I can't say enough good about this fantastic program. I rated it ***** Outstanding If you don't own this program you will live to regret it! My compliments to Dominick Melfi for an incredible effort!!!

SEPTEMBER 1983 NEWSLETTER

MODULE WINNER FOR THE MONTH

I loaded the random number generator into the console, keyed in "RUN", and waited for the machine to belch out the lucky number. A few seconds later the member number MA1256 popped on the screen. I checked my master list to see who the lucky soul was and got a surprise. This guy didn't pay his renewal fee and wasn't eligible! So I ran the program again and made a note to remove the name from the mailing list program! This time a winner came up. Our compliments to Garland Frazier of Jasper, AL! Garland you just won yourself a free copy of the Addison-Wesley Math Games #2. Let us know if you want the module or the cash!

TECHNICAL DATA MANUAL PROBLEMS

We are giving up on trying to obtain copies of the TI 99/4A Technical Data Manual!!! Our dealer price list clearly shows it, but TI tells me that they aren't going to make it available to dealers any longer. So if you want one send your check for $14.95-plus $2 for shipping-to: Texas Instruments Inc., Dealer Parts Department, P.O. Box 53, Lubbock, TX 79408. We will issue refunds to all of you who ordered one through the users group. Our appologies for "their" inconvience!

TIDBITS FOR YOU TO BYTE ON

BUD SHAPIRO

I hope you all had a good sumer, and now that it is almost over and vacations are used it's time to get back to pounding the keyboard on the old computer. The following are conversions of LEFT$, MID$, and RIGHT$ equates found in other computer programs and the equivalent conversion for use in the T.I.

LEFT$(X$,A-1) = SEG$(X$,1,A-1)::LEFT$(X$,LEN(X$)-1) = SEG$(X$,1,LEN(X$)-1)::
LEFT$(X$,A) = SEG$(X$,1,A)::This one is easy: all MID$ are exactly as written except change MID$ to SEG$. Now that wasn't hard was it!?! Now comes the fun! Let the electric pulses flow thru the gray mass we call brains and really charge 'em up to high gear thinking.
RIGHT$(C$,LEN(C$)-A-LEN(X$)+1) = SEG$(C$,A+LEN(X$),LEN(C$)-A-LEN(X$)+1)::
RIGHT$(C$,LEN(C$)-LEN(X$)-A+1) = SEG$(C$,LEN(X$)+A,LEN(C$)-LEN(X$)+1)::
RIGHT$(C$,LEN(C$)-A) = SEG$(C$,A+1,LEN(C$)-A)::RIGHT$(C$,1) = SEG$(C$,LEN(C$),1)
RIGHT$(C$,LEN(C$)-1) = SEG$(C$,1,LEN(C$)-1)::RIGHT$(C$(X),1) = SEG$(C$(X),LEN
C$(X)),1):: WHEW!!! I think that's enough "bytes" to chew on. Remember to use the variables from the program. The above are just examples.
Now get some of those programs you've seen with those strange equates and convert them to T.I. and enjoy the programs running.
Next months article will be a surprise, since i am not sure what I'll write as of now, but it will be interesting. Till then have fun and keep the creative juices flowing....BUD.

SEPTEMBER 1983 NEWSLETTER

BIASED OPINIONS ON USING THE 99/4A BY MARTIN J. BIANCALANA

(Programming With "Real" Subroutines)

In one of the programs that I received from our users group, the following
segment of code appeared:
```
151 CALL KEY(0,K,S)
152 IF S=0 THEN 151
153 IF K=89 THEN 160
154 IF K=78 THEN 110 ELSE 151
```
This code sequence probably works and it does handle unexpected entries.
That is about all I can say for it. There are several things I strongly object
to about it. There are no comments. Why are we branching to 160? Is the pro-
gram over? To understand this segment you must first understand other parts of
the program. A comment or two would have helped. The other thing I strongly
object to is having to look up codes in tables. I bought a computer to do that
sort of dull stuff. In short this is an example of unclear coding.

Now that I have said what I don't like, it is only fair that I say how I
would handle the same problem. Commenting is one way to clearify the meaning of
code, but commenting would be easier if the code were clearer. Instead of the
BASIC command CALL KEY, why not create a command that does not demand either a
loop command or cryptic codes to do the job? I use this "real" subroutine:
```
100 SUB KY(K$)
110 ! THIS SUB WAITS FOR A KEY ENTRY
120 ! THEN RETURNS AN ASCII CHAR
130 CALL KEY(5,K,S)
140 IF S=0 THEN 130 ! WAIT FOR ENTRY
150 K$=CHR$(K) ! CONVERT TO ASCII
160 SUBEND
```
What has this really bought? I certainly have not reduced the number of
characters and therefore the memory use. I have added a subroutine and still
have to test the resulting entry. What I have gained is much clearer code. The
original sequence now reads:
```
151 CALL KY(E$)
153 IF E$="Y" THEN 160
154 IF E$="N" THEN 110 ELSE 151
```
There are no codes to look up, the "Y" and "N" document themselves, and the
reason for the branches is plain. If there are more than 7 calls, using this
subroutine will save memory. A final question remains. Why not use a GOSUB
construct. I have the following reasons:
A) real subs are the basis for structured programming
B) they allow me to easily use more advanced program design techniques
C) they allow me to customize BASIC to my style
D) they break the tyranny of line numbers
E) they are transportable from program to program.

A "real" subroutine has a defined entry, exit, and parameters. These
qualities make it the basic building block for modular, structured program design.

Such modern design speeds the writing, coding and especially debugging of programs. After a program is running there are always a few bells and whistles to add. Enhancements are easy with a modular program and very sporting with the usual hackers code.

Once I have written, coded, debugged, and tested a program using "real" subs, I can use software tools to list all the subs, define the structure, and break out any subs I feel are general enough to put into a library. In other words, I can use the computer to help document the program and help set up for future efforts.

The nicest feature of these routines is that they allow me to customize the language to my style. I can design new commands that express my preferences on how programs should be written. The example above is a good one. While the CALL KEY command is very general and serves a useful purpose, it requires a series of codes to use and returns another series of codes. Very good for machines; I am not a machine. My routine CALL KY requires no codes and returns an ASCII character that I can recognize without a code book. I claim that KY is much more civilized than KEY. I do not advocate getting rid of CALL KEY; just that CALL KY suits my programming style much better.

Since "real" subroutines are called by name, not line number, people can easily remember what the routine does. The computer can use either line number or name, but I still am not a computer. I can remember names and associated actions easier than numbers. This makes the code much more readable. The idea that good code is very readable is important if you are writing and maintaining software. Especially other peoples software. One of the features of a good higher order language is the readability of its code. The fact that a "real" subroutine in Extended BASIC is virtually identical to a FORTRAN subroutine and directly analogous to a PASCAL or ADA procedure, indicates the latent power in Extended BASIC.

"Real" subroutines protect their parameters. If you had a program that used the variable K$, and you used the KY subroutine for entries, the K$ in your program and the K$ in the subroutine would be considered different by the 99/4A. In other words the only variables that a real subroutine can affect are the ones passed to it in the parameter list. As a result these subroutines can be collected in a library and used in any program without fear of catastrophic side effects. Such a library really shifts programming into high gear.

I favor "real" subroutines. You will not find other personal computer users even talking about such routines. As far as I know TI's 99/4 with Extended BASIC is the only personal computer advanced enough to support such constructs. I invite comments, pro or con, and will try to answer any reasonable question.

SEPTEMBER 1983 NEWSLETTER

DAILY INTEREST, AS OPPOSED TO QUARTERLY CURIOSITY!

Many of you seem to be confused as to how to compute daily interest on
your savings accounts, so here is a simple routine that should eliminate much of
your confusion. 10 CALL CLEAR 20 PRINT TAB(2);"AMOUNT TO BE CALCULATED?"::::::
30 INPUT AM 40 PRINT TAB(5);"RATE OF INTEREST?"::::: 50 INPUT RT 60 DI=
(RT/365.26) 70 FOR T=1 TO 365 80 AMT=(DI*AM) 90 AM=(AM+AMT) 100 NEXT T
110 CALL CLEAR 120 PRINT TAB(4);"TOTAL FOR ONE YEAR $":AM:::::::::::::

DEFEND THE CITIES II: IS LUBBOCK DOOMED?

This is a game by Intersoft and is authored by Jerry Spacek. It is written
in Assembler and will fit neatly into your Mini Memory module! It offers three
difficulty levels combined with four skill levels, the net result is a dozen
varities of speed and complexity. The game involves the defense of five cities,
one at a time, from attack by missiles. The mother ship looms overhead in;
the night sky dropping missiles on your city. The first city just happens to be
New york.
It is your duty to knock out each of these missiles before they incinerate
the city into ashes. One hit can end the game! Position your sights and blast
away, you score points for each missile as well as for hitting the mother craft.
Should you be good enough to hit all of the missiles and the mother ship, you get
to advance to the next screen! It ain't easy!!! This variation offers some
enhancements over its X/Basic original version; such as rapid firecapabilityand
incredible speed.
The graphics are good with each city being depicted in blue as a silhouette
against a black sky. The missiles are varied colors. The sound effects are
excellent! Play action progresses from fairly slow and easy upwards to very fast
and downright tough! It plays very well and is sure to keep you alert and on
the edge of your favorite chair. I rated it *** Very Good. X/Basic version is
$15.75 and the Mini Memory Assembler version is $15.75 Please Specify!
We also carry all of the other games from Intersoft; Galectic Gunfight at
$12.50 on cassette, Meteor Storm at $12.50 on cassette, and Mission Battlestar
at $12.50 on cassette. Their newest game, Theon Raiders, will be out shortly
and we will feature a full review on it. No price as of yet. Keep up the fine
work Jerry!

NEW PRODUCT DELAYS: PATIENCE IS A PAIN!

Our latest information says, that Logo #2 is going to be out in the fourth
quarter. This also applies to the Hex-Bus Peripherals and the Plato educational
packages. Just to be fair, I should tell you that Numeration #1, Dragon Mix,
and Measurement Formuleas are released and shipping! Still delays on the Cartridge
storage Cabinet! When my backorders finally ship this place is going to look like
a national disaster!

SEPTEMBER 1983 NEWSLETTER

ARTHROPOD: TOUGHER THAN A BUS STATION STEAK!

If you are tired of games that you can master easily, then get a copy of this masterpiece! Bill Bies wrote this in TMS9900 Assembler and it is truly spectacular. The documentation is as good as the program, and both are exceptionally professional for a fourteen year old programmer!!!

The game features crisp colorful graphics, incredible play action, and speed+. You may select one of three difficulty levels: normal, harmful, or fatal. You can move in all directions and fire constantly, but not both at the same time. The mushrooms are deadly so don't run into one, the centipede splits into two if you hit the body instead of the head, the two spiders pursue you rapidly and intelligently, and... You can also get a bonus for hitting the ant that sometimes appears and drops bombs on you. Then there is the crab that slowly crawls across the screen turning all of the mushrooms he touches into very poisonous things! Hitting that "slow" crab is worth a thousand points!

You get three tries per game and you can lose in five seconds! If you do get rid of all of the centipede, you can advance to the next level, and that is even nastier! You may play with either the keyboard or with joysticks. I prefer the later! You are going to work just to keep an eye on all of the moving objects and to navigate around deadly mushrooms. Your high game is updated for you by the computer.

I can't say enough good things about this game, as it is perhaps the best one I have ever seen by any Third Party producer!!! It has it all; great graphics, super sound, incredible play action, and a true arcade challenge. There are two versions: X/Basic and Editor/Assembler. Both require the Disk Controller, Disk Memory Drive, and X/RAM. The Editor/Assembler version does load faster. I rated this gem ***** Outstanding The price on diskette for either version is $21.50 and it is worth every cent!

I should also tell you that Bill Bies has written a take off on "ASTEROIDS" in assembler and it is called "AS-TI-ROIDS". It is sensational also and sells for the same price on diskette. I shall offer a review of it in October.

THE MBX SYSTEM: GOING UP?

The forth coming Milton Bradley MBX system has already had a price increase. The new price is $129.95 retail and your cost will be $90-unless the price changes again! I personally don't like to see prices go upwards before a product is even released for sales! I have heard rumors of $149.95 retail, so who knows. MB just might price their speech recognition game out of the market place if they continue to delay it and juggle the price around.

DUANE B. FISCHER, PRESIDENT

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